Doc Code: AP.PRE.REQ

PTO/SB/33 (01-09)
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)
4366-161

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on June 19, 2009

Signature Leslie M. Frankel

Typed or printed name Leslie M. Frankel

Application Number	Filed
10/813,509	2004-03-29
First Named Inventor	
David Clarence Mullen	
Art Unit	**Examiner**
2614	NGUYEN, KHAI N.

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☑ attorney or agent of record. Registration number 44,189

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

Signature

Bradley M. Knepper
Typed or printed name

(303) 863-9700
Telephone number

June 19, 2009
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:	Group Art Unit: 2614
David Clarence Mullen	Examiner: NGUYEN, KHAI N.
Serial No.: 10/813,509	Confirmation No.: 7396
Filed: March 29, 2004	REASONS IN SUPPORT OF PRE-APPEAL BRIEF REQUEST FOR REVIEW
Atty. File No.: 4366-161	
For: "METHOD AND APPARATUS TO FORECAST THE AVAILABILITY OF A RESOURCE" (As Amended)	

CERTIFICATE OF TRANSMISSION

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING TRANSMITTED VIA THE OFFICE ELECTRONIC FILING SYSTEM IN ACCORDANCE WITH 37 CFR §1.6(a)(4) ON June 19, 2009

SHERIDAN ROSS P.C.

BY: William Frankel

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The following sets forth Applicant's Reasons in Support of the Pre-Appeal Brief Request for Review submitted herewith.

The Examiner's objections omit essential elements needed to reject the pending claims. In particular, the cited references do not teach separately calculating for different segments of a task being performed by one agent probabilities of completing those segments within a forecast horizon, to obtain an overall probability of that agent's availability within the forecast horizon as claimed. Accordingly, it is submitted that all of the claims are in condition for allowance.

The Examiner rejects Claims 1-16 and 18-22 under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 5,640,445 to David ("David") in view of U.S. Patent Application Publication No. 2003/0018762 to Mullen ("Mullen"). However, all of the claim

elements cannot be found in the cited references, whether those references are considered alone or in combination. In particular, the cited references do not teach, suggest or describe determining probabilities for separate segments of a single task being performed by an agent, and combining those probabilities for the separate segments to obtain a probability of the agent's availability within a forecast horizon as claimed. Therefore, reconsideration and withdrawal of the rejections of Claims 1-16 and 18-22 as obvious are respectfully requested.

The claimed invention is generally directed to forecasting the future availability of a resource or agent for a new work assignment. According to the claimed invention, a task is considered as at least first and second segments. More particularly, the probability of completing the first segment of the task within the forecast horizon is determined, and the probability of completing the second segment of the task within the forecast horizon is determined. The determined probability for the first segment is then combined with the determined probability of the second segment, and the result is normalized to obtain a probability of agent availability within the forecast horizon.

For example, and without introducing limitations to the broader claims, an agent in a call center may be assigned to complete tasks that can be broken into a first segment during which the agent is speaking with a customer or other party ("talk time") and a second segment during which the agent is performing paper work following an instance of talk time ("wrap-up time"). A probability for each of these segments is then separately calculated. After the separate probabilities of the separate segments included in the task have been calculated, they are combined to obtain a probability related to whether the agent will be available within the forecast horizon. The references cited in the final Office Action do not teach, suggest or describe segmenting a task into multiple segments and separately determining the probability that each segment will be completed within a forecast horizon in connection with obtaining an overall probability that a resource will be available within that forecast time horizon as claimed.

Accordingly, the claimed invention specifies that a task be considered as at least first and second segments. A first probability related to an availability of a first resource within a forecast horizon is determined for the first segment, and a second probability related to the availability of the first resource within the forecast horizon is determined for the second

segment. The first and second probabilities are combined, and the result of the combining is normalized to obtain a probability of agent availability within the selected forecast horizon. Notably, and as stated above and made explicit in the claims, the segments for which probabilities are calculated are part of the same task. Calculating probabilities for different segments of one task and then combining those separate probabilities to obtain an overall probability of resource availability within the selected time horizon is not taught, suggested or described by the cited references.

The David reference is generally directed to an outbound call pacing method that statistically matches the number of calls dialed to the number of available operators. In particular, a weight (*i.e.*, one weight) is assigned to each agent and is a function of how long an agent has been engaged in a call or an after call work. (David, Abstract.) According to David, the sum of the weights assigned to the agents is the predicted number of engaged agents that will become free within a time window. (*Id.*) As noted in the Office Action, the David reference does state that agent availability and call answers are based on probability statistics. (See, *e.g.*, David, col. 2, ll. 63-66.) In addition, David discusses the use of one probability density function of the time a call takes from connection to an agent until an agent becomes free, and another probability density function of the elapsed time from when an agent begins after call work until he is free. (David, col. 5, ll. 49-67.) That is, David teaches applying a different probability density function to calculate a measure of whether an agent will become available to take a new call, depending on the task that an agent is engaged in. However, David does not discuss dividing a task the agent is engaged in into first and second segments and separately determining the probability of completing those segments within a forecast horizon as claimed. Moreover, David does not discuss combining probabilities for different segments of a single task to arrive at an overall probability that an agent will complete the task within the forecast horizon. Instead, David discusses calculating an overall probability that an agent will become available by calculating different probabilities for different agents based on the task being performed by those different agents (*e.g.* either in a call or engaged in after call work), and the results for agents involved in the different types of work are summed. Importantly, David does not describe calculating different probabilities for different segments of one task for one agent

and then combining those probabilities in order to obtain an agent arrival probability for that agent as claimed. Instead, each agent in David is assigned to either a first or a second class of work, and a probability is calculated for that one assigned class. Therefore, David does not teach, suggest or describe determining different probabilities for different segments of a task being performed by one agent and combining those separately determined probabilities for that one agent.

The Mullen reference is cited in connection with computing a variance in agent time in different states. Although Mullen discusses variance, there is no disclosure in that reference of calculating for different segments of a task being performed by a resource separate probabilities of completing those segments within a forecast horizon as generally claimed. Accordingly, Mullen does not make up for all of the deficiencies in the David reference, and the rejections of Claims 1-16 and 18-22 as obvious should be reconsidered and withdrawn.

The Examiner rejects Claims 1-12 under 35 U.S.C. §101 as being directed to non-statutory subjected matter. In the Amendment After Final submitted on May 26, 2009, Applicant proposed an amendment to Claim 1 to incorporate Claim 13, which depends from Claim 1, and which is not subject to a rejection under 35 U.S.C. §101. However, the Examiner declined to enter this amendment, which was the only amendment presented as part of the Amendment After Final, on the grounds that it was a new limitation that required further search. As now pending, Claims 1-12 should be allowed for at least the reasons that they articulate a method performed by a machine and/or a transformation in that various points of data are applied to determine how to assign work to resources. Alternatively, Claims 1-12 could be placed in condition for allowance by incorporating the elements of Claim 13 into Claim 1. Therefore, Claims 1-12 are allowable, and the rejections of Claims 1-12 on the grounds that they are directed to non-statutory subject matter should be reconsidered and withdrawn.

Because the references cited by the Examiner do not teach, suggest or describe separately determining for different segments of a first task a probability of completing each of the segments within a forecast horizon, and combining those probabilities in order to arrive at an overall forecast of the probability of agent availability within the selected

forecast horizon as generally claimed, the rejections of the claims as obvious should be reconsidered and withdrawn. In addition, because the pending claims meet the test for statutory subject matter, the rejections under 35 U.S.C. §101 should also be reconsidered and withdrawn.

Allowance of the pending claims is respectfully requested. The Pre-Appeal Brief Conference participants are invited to contact the undersigned by telephone if there are any questions or if doing so would expedite the resolution of this matter.

Respectfully submitted,

SHERIDAN ROSS P.C.

By: _____

Bradley M. Knepper
Registration No. 44,189
1560 Broadway, Suite 1200
Denver, Colorado 80202-5141
(303) 863-9700

Date: June 19, 2009